ABSTRACT

Disclosed are methods and systems for improving data security in a computer system. In particular, disclosed are methods and systems for writing a sequence of pseudorandom bits to a computer system's memory, where the number of bits written is equal to the expected size of the computer system's free memory. As such, if one or more unknown programs are resident in the computer system's memory, the methods and systems will be unable to write bits to the memory in which the unknown programs reside. Then, these methods and systems attempt to read these bits from the computer system's memory. Thus, if an unknown program is resident in the computer system's memory, the unknown program will have to correctly guess the bits that were attempted to be written in the memory in which the unknown program resides. Thus, if the read bits do not match the written bits, the existence of an unknown program may be determined. Further disclosed are methods and systems for determining if any bits are improperly transmitted to an unauthorized location. For example, in certain systems it is desirable to maintain data security and to ensure that secure bits are not improperly transmitted to someplace other than for use by an application program. Such methods and systems check for any such unauthorized input/output activity.